



## THE CONTINUATION OF THE COCONUT PRODUCT COOPERATIVE IN NORTH MALUKU PROVINCE, INDONESIA

<sup>1</sup>Munawir Muhammad ,<sup>2</sup>Djoko Koestioni ,<sup>3</sup>Syafrial, <sup>4</sup>Riyanti Isaskar

<sup>1</sup>Agribusiness Study Program, Faculty of Agriculture and Fisheries, Muhammadiyah University, North Maluku, Indonesia, E-mail: [munawirmuhammad1011@gmail.com](mailto:munawirmuhammad1011@gmail.com)

<sup>2</sup> Agriculture Faculty, Brawijaya University, Malang, Indonesia, E-mail: [dkoestiono@ub.ac.id](mailto:dkoestiono@ub.ac.id)

<sup>3</sup> Agriculture Faculty, Brawijaya University, Malang, Indonesia, E-mail: [syafrial.fp@ub.ac.id](mailto:syafrial.fp@ub.ac.id)

<sup>4</sup> Agriculture Faculty, Brawijaya University, Malang, Indonesia, E-mail: [riyanti.fp@ub.ac.id](mailto:riyanti.fp@ub.ac.id)

### ABSTRACT

The coconut plant, long known to the people of Indonesia, is widespread throughout the archipelago. As a strategic commodity, coconut plays a crucial role in the social, cultural, and economic aspects of Indonesian society. Coconut production in Indonesia reaches 18.3 million tons, making it the highest in the world. This research aims to analyze the condition of sustainable livelihood assets within coconut processed product cooperatives using the pentagon model. Data collection involves average asset values based on categories such as Human Capital, Natural Capital, Financial Capital, Social Capital, Physical Capital, Entrepreneurship Capital, and Political Capital. The analysis results show variations in the average asset values, with Physical Capital and Entrepreneurship Capital having the highest values, while Political Capital has the lowest. This indicates that coconut processed product cooperatives excel in physical, financial, and entrepreneurial aspects, while also strengthening political support and social capital.

Keywords: Sustainable Livelihood, Coconut Commodity

### INTRODUCTION

Indonesia is known as an agrarian country that heavily relies on the agricultural sector, serving as both a source of livelihood and a pillar for development. The development process in Indonesia has made the agricultural sector crucial in the national economy, given that a significant portion of the population lives in rural areas and relies on farming for their livelihoods. Apart from contributing significantly to Indonesia's national income, a considerable portion of Indonesia's exports also comes from the agricultural sector. Therefore, the agricultural sector plays a vital role in absorbing labor and providing food and clothing needs for the population (Wibowo, 2012).



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The North Maluku Province is renowned as one of Indonesia's coconut producers. According to statistical data from 2021, the coconut plantations in this province cover an area of 221,804 hectares, yielding a total production equivalent to 211,802 tons of copra. In addition to meeting local needs, coconut cultivation in this province significantly contributes to the country's foreign exchange earnings through export activities. The importance of this commodity is not only evident in meeting the needs of the population and export contributions but also in employment generation, reaching approximately 6.9 million households, as reported by Hamka (2012). Coconut plants thrive and are evenly distributed across the islands of the North Maluku Province, encompassing islands such as West Halmahera, Central Halmahera, Sula Islands, South Halmahera, North Halmahera, East Halmahera, Morotai Island, Taliabu Island, Ternate City, and Tidore City. Information related to coconut production in the North Maluku Province can be found in Figure 1.

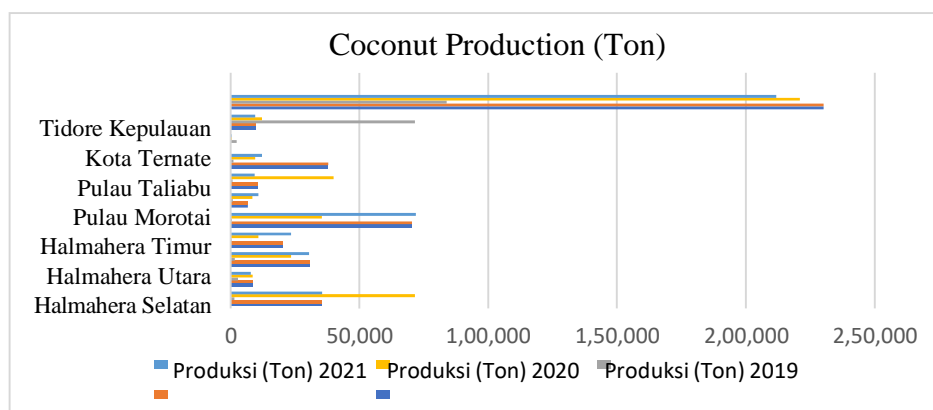


Figure 1. Coconut Production in North Maluku in year 2021 reached its peak at 230,175 tons. This trend then persisted in 2018, with coconut production remaining stable at the same figure, namely 230,175 tons. However, in 2019, there was a significant decrease to 83,872 tons. The declining trend then reversed in 2020, where coconut production increased again to 220,942 tons. Nevertheless, in 2021, there was another decrease to 211,802 tons. Overall, coconut production in North Maluku demonstrates striking instability from year to year, with significant variations in production quantities.

A cooperative is an institution formed by individuals or the government with the aim of providing economic support to its members. As an entity operating in the economic sector and growing from community initiatives, a cooperative is an organization that arises from the initiatives, goals, behaviors, desires, strengths, and participation of the community to ensure the implementation of economic activities. The existence of cooperatives aims to create shared prosperity for the entire population of Indonesia. Currently and in the future, cooperatives remain a necessity for the Indonesian community, especially those in the middle to lower economic classes. The use of cooperatives is emphasized by the principles of increasing the bargaining power of members, expanding businesses, and business development. Law Number 25 of 1992 classifies cooperatives into five types: producer cooperatives, consumer cooperatives, marketing cooperatives, service cooperatives, and savings and loan cooperatives (Ministry of Cooperatives

and Small and Medium Enterprises of the Republic of Indonesia, 2010).

Currently, the North Maluku Province accommodates six active cooperatives operating in the coconut plantation sector, with a focus on Producer Cooperatives. These cooperatives serve as economic organizations or coconut farmer groups, aiming to develop various economic activities in rural communities, particularly among coconut farmers. However, in terms of livelihood assets, the cooperatives in North Maluku still face weaknesses in their performance in running their businesses. To enhance the performance of these cooperatives, the application of the livelihood assets theory is needed. According to DFID (2001), livelihood assets involve human capital, natural capital, social capital, financial capital, and physical capital. As an innovation in this research, two new variables are added, namely entrepreneurship capital and political capital, with the aim of improving the sustainability of coconut processed product cooperatives in the North Maluku Province.

The objective of this research is to evaluate the Livelihood Assets of Coconut Processed Product Cooperatives in the North Maluku Province. This study is expected to provide benefits by enhancing understanding and knowledge regarding efforts to improve the performance of Coconut Processed Product Cooperatives in the region. Additionally, the research aims to contribute to the development of knowledge, especially in the academic field, and serve as a reference for the government of the North Maluku Province in harnessing the potential of plantation resources, particularly in the context of coconut commodities. A more concrete benefit of this research is to provide information that can be used as a reference to enhance the knowledge and skills of small-scale coconut farmers in coconut processing. Therefore, it is expected that this research will make a positive contribution to local economic development and the empowerment of coconut farming communities in the North Maluku Province.

### ***Sustainable Livelihood***

The literature review provides a foundation for the evaluation of livelihood assets and their impact on performance, citing Kaplinsky & Morris (2000). The study conducts a relevant literature review related to the development of a livelihood asset evaluation index system. Many studies have been conducted in this regard, with most scholars using the sustainable livelihood framework developed by the UK Department for International Development (DFID) to create livelihood asset evaluation index systems (Guo et al., 2014; Perz et al., 2015). The importance of measuring livelihood assets is evident in the reviewed literature. Several studies have examined various methods for measuring farmers' livelihood assets. For example, Liu et al. (2021) methodically evaluate procedures for measuring farmers' livelihood assets, including subjective weighting comparisons and principal component weighting. Other studies, such as Erenstein et al. (2010), use principal component analysis, while Fang et al. (2014) utilize the Analytic Hierarchy Process (AHP) method to analyze farmers' livelihood asset situations. Several empirical studies have also been conducted on livelihood assets. Oladele et al. (2017) use the Sustainable Livelihoods Approach (SLA) framework to select appropriate livelihood asset indicators, building a logistic regression model to examine the relationship between livelihood assets and farmers' life satisfaction. Johnson (2009) empirically analyzes the main and moderating impacts of risk expectations and livelihood assets on farmers' intention to withdraw from land, indicating that

livelihood assets play a crucial role in farmers' willingness to leave their land and moderate the relationship between risk expectations and withdrawal intentions from farmland.

The sustainable livelihood approach plays a crucial role in achieving sustainability, focusing on capacity enhancement, increased justice, and improved social sustainability. This approach takes a comprehensive perspective on how rural populations survive and earn a living. Its goal is to empower rural communities, enhance the social and economic well-being of households, and achieve sustainability through effective responses to various shocks. The sustainable livelihood approach emphasizes how to acquire and enhance capabilities and assets that generate sustainable living opportunities for future generations. By integrating development policies, sustainable resource management, and poverty alleviation simultaneously, this approach becomes a crucial factor in achieving sustainable development. Thus, applying the livelihood approach to empower and enhance the capacity of poor rural communities is considered a fundamental and crucial approach to achieving sustainable development, aligning with efforts to improve responses to challenges and opportunities faced by rural communities. As valuable knowledge holders about their own conditions and seeks to strengthen their involvement in identifying and addressing the challenges and opportunities they face.

## **RESEARCH METHOD**

This research deliberately selected the research location purposively, specifically in the largest coconut-producing area in North Maluku. The research respondents were determined using two sampling methods, namely purposive sampling, following the approach described by Sugiyono (2019). Respondents involved in this research were the management of coconut processing cooperatives and their members in the North Maluku Province, with a total of 206 respondents as the research sample. Data collection was carried out through primary and secondary data.

### ***Sustainable Livelihood Assets***

To address the third objective of the study, an analysis was conducted based on the Sustainable Livelihood Framework from the Department of International Development (DFID UK) in three stages:

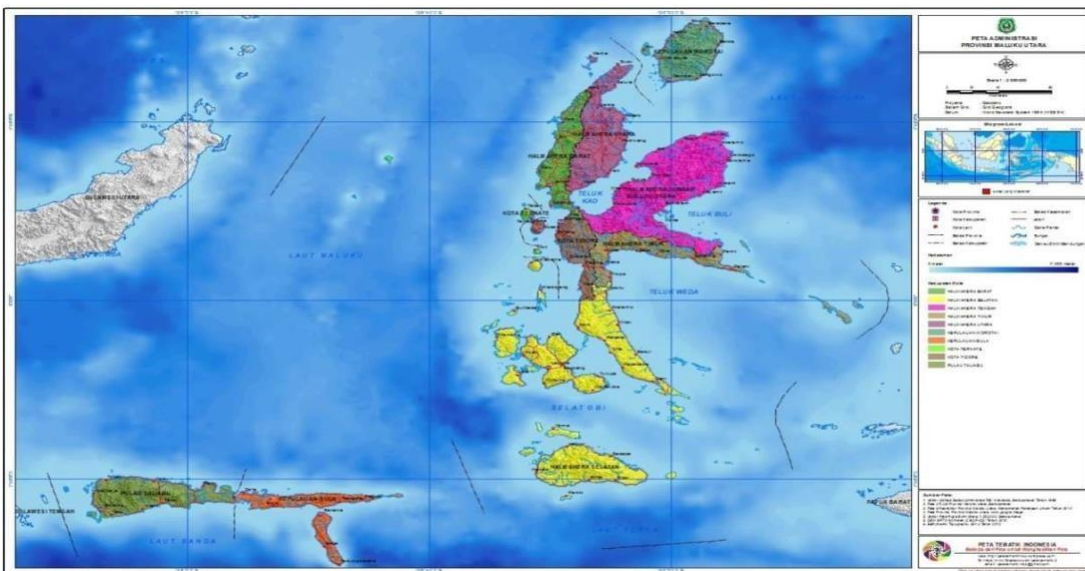
1. Stage I: Collection of criteria and indicators influencing Sustainable Livelihood in coconut cooperatives in the North Maluku Province.
2. Stage II: Assessment of the outcomes of selected criteria and indicators. The assessment of Livelihood Assets in coconut cooperatives includes Human Capital, Natural Capital, Financial Capital, Social Capital, Physical Capital, Entrepreneurship Capital, and Politic Capital. Assessment is carried out by assigning scores on a scale of 1 to 5, where scores approaching 1 indicate a low assessment of Livelihood Assets, while scores approaching 5 indicate a high assessment.
3. The output of this analysis is a sustainable livelihood strategy for coconut cooperatives based on the framework described by Scoones (1998). This strategy encompasses efforts to increase income through intensification and extensification, diversification, and migration.

## RESULT AND DISCUSSION

### 1. General Overview of North Maluku Province

North Maluku (Malut) is one of the provinces in the eastern part of Indonesia, officially formed on October 4, 1999. Previously, North Maluku was a regency within the province of Maluku, along with Central Halmahera. The establishment of this province is regulated by the Indonesian Law Number 46 of 1999 and Law Number 6 of 2003. Initially, the capital of North Maluku was in Ternate, located at the foot of Mount Gamalama, serving as the center of government for about 11 years. However, following a transition and development preparation, on August 4, 2010, the provincial capital was moved to Sofifi, a subdistrict in North Oba, Tidore Islands city. Sofifi is located on Halmahera Island, the largest island in North Maluku. In 2021, the population of North Maluku reached 1,316,973 people, with a population density of around 41 people per square kilometer. The province continues to grow and remains a crucial part of Indonesia's cultural diversity and natural wealth.

North Maluku Province consists of 10 Regencies/Cities, namely West Halmahera Regency, Central Halmahera Regency, Sula Islands Regency, South Halmahera Regency, North Halmahera Regency, East Halmahera Regency, Morotai Island Regency, Taliabu Island Regency, as well as Ternate City and Tidore Islands City. The administrative region of North Maluku covers 116 districts and 1,199 villages/sub-districts. In 2019, the air temperature in North Maluku ranged from 24°C to 33°C, with an average humidity of about 81 percent. The average rainfall reached 146 mm<sup>3</sup>, and the highest rainfall occurred in April with a total of 306 mm<sup>3</sup>. As a visual reference, here is the map of North Maluku Province



Picture 2. Map of North Maluku Province

### 2. The condition of sustainable livelihood assets of coconut processed product cooperatives in North Maluku Province.

The asset pentagon is part of livelihood strategies reflecting community efforts to achieve adequate living standards. This strategy is used to assess the well-being of communities by considering the assets they possess. The asset pentagon is also applied in the context of disaster

risk reduction, especially related to land fires. Socio-economic aspects are identified as one of the key factors influencing community vulnerability to disasters. It is emphasized that protecting and developing the livelihood resources of the community, especially those in poverty, has a positive impact on reducing vulnerability to disasters. This approach aligns with the principles applied by DFID in 2001, emphasizing the need to focus on socio-economic elements in addressing disaster risks, including land fires. can be used to support individual or household life while maintaining material well-being at various levels of livelihood (Ellis, 2000). According to Scoones (2001), assets can be categorized into five types: natural, financial or economic, human, physical (including food, shelter, markets, transportation, machinery, roads, sanitation facilities, irrigation infrastructure, and clean water facilities), and social capital (involving networks and social relations). This understanding reinforces the concept that managing assets in various forms can be a vital strategy in improving community well-being and resilience.

### Human Capital

Indicators found within human capital include knowledge, skills, experience, health, and labor (Ellis, 2000). Human capital encompasses various aspects such as education, labor, knowledge, skills, experience, and health working synergistically in livelihood strategies to achieve life goals (DFID, 2001).

Table 1. Human Capital Variable Values

Variabel	Mean	Std. Deviation
Level of Education	2,91	0,689
Availability of Labor	4,29	0,879
Knowledge and Skills	4,16	0,864
Experience	4,11	0,849
Health	4,34	0,791
Total	19,80	2,586
Mean Value	3,96	

The analysis of human capital within the coconut processed product cooperatives in North Maluku Province reveals several important aspects. Firstly, the average education level of the cooperative managers and members is 2.91, indicating room for improvement in their education. Meanwhile, the availability of labor is rated high with an average of 4.29, indicating the presence of adequate human resources to support cooperative operations. Furthermore, the aspect of knowledge and skills shows positive results with an average of 4.16, reflecting a high level among cooperative managers and members. Experience is also a strength, with an average of 4.11, indicating that they have sufficient experience in various activities of the coconut processed product cooperatives. The health of the cooperative managers and members is rated high with an average of 4.34, providing positive support for productivity and well-being. Overall, the analysis results show an average of 3.96, depicting high performance in human capital within the cooperatives. Although there are some aspects that require further attention, these results align with other research findings highlighting the role of education, labor availability, and health in influencing the attitudes and perceptions of farmers towards conservation programs, as found in a study conducted by Dang et al. in 2020.

### Natural Capital

Natural resources urce of natural capital, supporting the livelihood and sustainability of their daily lives. This concept aligns with the DFID view in 2001, emphasizing that natural capital arises from the control households have over land, water, and other facilities to sustain their lives.

**Table 2. Measurement Variable Values for Natural Capital**

Variabel	Mean	Std. Deviation
Land Resources	4,38	0,721
Water Resources	4,21	0,705
Land Productivity	4,34	0,734
Total	12,94	1,702
Mean Value	4,31	

Table 2 reflects that the average score for land resources is 4.38, indicating a very high abundance of land resources among the farmers. This suggests high productivity and the land's ability to support various activities in the coconut processed products cooperative. The average score of 4.21 for water resources indicates a high level, signifying that the cooperative has good access or effective control over the water resources needed for production. Land productivity, with an average of 4.34, reflects a very high level of productivity, indicating that the land is capable of yielding abundant results. With an overall average score of 4.31, it can be concluded that the natural capital within the coconut processed products cooperative has a very high level overall. Descriptive analysis results using SPSS show that the average score is greater than the standard deviation. When the standard deviation is smaller than the average, it indicates good performance. In conclusion, natural resources such as land and water have high value and are essential assets in the cooperative context.

### Financial Capital

Financial capital reflects the extent to which farmer households have control over financial access, involving savings, income, credit, debt, and economic valuables (Scoones, DFID, 2001). The analysis of financial capital indicators is explained in the following table.

**Table 3. Measurement Variable Values for Financial Capital**

Variabel	Mean	Std. Deviation
Income	4,46	0,652
Expenditur	3,27	0,604
Coconut Production	4,58	0,625
Access to Credit	3,83	0,816
Labor Costs	4,38	0,708
Total	20,53	1,852
Mean Value	4,10	

Table 3 reveals several roduction activities. Access to credit with an average of 3,83 indicates a high level, suggesting the cooperative's ability to access additional financial resources through credit. Labor costs reaching an average of 4.38 indicate a very high level, possibly reflecting significant labor costs, which can be interpreted as high productivity or wage standards. With a total average score of 4.10, it can be concluded that the financial capital within the cooperative can be considered

to have a very high overall level. Descriptive analysis using SPSS indicates that the mean value is greater than the standard deviation, indicating the success and potential of the cooperative in managing financial resources effectively.

### Social Capital

Social Capital reflects how farmer households interact with other members of their social environment. Social capital is considered to enhance trust and reduce the costs of working together (DFID, 2001).

Table 4. Measurement Variable Values of Social Capital

Variabel	Mean	Std. Deviation
Participation of Members	3,89	0,831
Social Network	3,35	0,478
Participation of Government	3,54	0,518
Total	10,79	0,999
Mean Value	3,60	

Table 4 depicts that the average member involvement is 3.89, indicating a high level of participation from cooperative members. This signifies active support from members towards cooperative activities or social initiatives within it. The average social connectivity is 3.35, reflecting a moderately high level, indicating good social relationships and networks within the cooperative. The average government participation of 3.54 indicates a moderately high level of government involvement, suggesting adequate support and engagement. With a total average of 3.60, it can be concluded that the social capital within the cooperative is moderately high. Descriptive analysis using SPSS shows a mean value greater than the standard deviation, indicating good performance. This illustrates strong support and participation from members, solid social networks, and adequate government involvement. As mentioned by Apine (2019), significant social capital can be advantageous for livelihoods, playing a crucial role for farmers (Kuang, 2019).

### Physical Capital

Physical capital represents the description of accessibility in the form of facilities and infrastructure that support farmers' households in their lives. Physical capital consists of basic infrastructure and ownership of equipment that can generate goods/services, thereby promoting livelihood growth (Scoones, DFID, 2001). The results of the descriptive analysis are presented in the following table, which elaborates on the analysis of physical capital indicators.

Table 5. Measurement Variable Values for Physical Capital

Variabel	Mean	Std. Deviation
Production Tools	3,89	0,779
Availability of Transportation Facilities	4,42	0,610
Availability of Markets	4,64	0,482
Road Access	4,53	0,538
Total	17,48	1,225
Mean Value	4,37	



Table 5 reflects that the average score for production tools is 3.89, indicating a high level of production tools within the coconut processed product cooperative. This suggests the availability and quality of production tools are sufficient to support production activities. The average score for transportation facilities is 4.42, reflecting a very high level, indicating the cooperative has good road access to support product or material distribution. The average score for market availability is 4.64, indicating an exceptionally high level, suggesting that the cooperative has access or capacity to reach a wide market and enhance product sales or distribution. The average score for road access is 4.53, reflecting an exceptionally high level, indicating good road access for smooth transportation and distribution activities. With a total average score of 4.37, it can be concluded that the physical capital within the coconut processed product cooperative is exceptionally high. Descriptive analysis using SPSS shows a mean value greater than the standard deviation, indicating good performance. This reflects the cooperative's success in optimizing its physical capital to support operational activities and growth.

### Entrepreneurship Capital

Entrepreneurship Capital, in the context of this research, becomes an additional aspect assessed in the livelihood assets owned by the Coconut Processed Product Cooperative. It is important to note that entrepreneurship has a significant contribution both economically and non-economically in the development process of a country (Fayolle, 2007). The introduced concept is sustainable entrepreneurship, which connects sustainable development with entrepreneurship (Schaltegger and Wagner, 2011). Research by Audretsch, Bonte, and Keilbach (2008) explores Entrepreneurship Capital and its impact on knowledge dissemination and economic performance. The results of this research show that latent variables such as innovation efforts, Entrepreneurship Capital, and technical knowledge have a direct influence on economic performance. Furthermore, there is a positive and statistically significant relationship between Entrepreneurship Capital and economic performance. All these relationships are positive and statistically significant. The results of Entrepreneurship Capital can be seen in the following table:

Table 6. Measurement Variable Values for Entrepreneurship Capital

Variabel	Mean	Std. Deviation
Leadership	4,63	0,495
Management Aspects	4,02	0,712
Inovation Efforts	4,40	0,737
Total	13,04	1,166
Mean Value	4,34	

Table 6 depicts that the average value of leadership is 4.63, indicating that the coconut processed product cooperative has a very high level of leadership. This reflects effective leadership in directing, inspiring, and managing resources well. The average value of management aspects is 4.02, indicating a high level, showing that the cooperative has good managerial abilities in managing various operational and strategic aspects. The average value of innovation efforts is 4.40, indicating a very high level in promoting innovation, suggesting that the cooperative is active in seeking creative solutions and improvements to enhance efficiency, products, and services. With a total average value of 4.34, overall, the entrepreneurship capital within the cooperative can be

considered to have a very high level. Descriptive analysis using SPSS shows that the mean value is greater than the standard deviation. If the standard deviation is smaller than its mean value, then the performance can be considered good. This indicates that the cooperative has a strong foundation in leadership, effective management, and a drive for innovation. In line with Nugroho's research (2020), the results show that Entrepreneurship Capital has a significant contribution to livestock groups.

### Politic Capital

The research findings indicate that having a coffee identification card and engaging in community activities, as done by the village community action council, can enhance the well-being of coffee farmer families. Overall, political capital plays a crucial role in improving the well-being of coffee-farming households in South Colombia, especially when combined with social capital and community participation (Suarez et al., 2022). In the cooperative context, political capital plays a significant role in its operations and development by referring to the influence and support received by the cooperative from political entities, both at the local, national, and international levels. Some roles of political capital in cooperatives involve:

Table 7. Measurement Variable Values for Political Capital

Variabel	Mean	Std. Deviation
Becoming a Member of the Action Council	2,65	0,853
Participating in Government Activities	3,03	0,616
Participating in Decision Making	2,60	0,511
Total	8,27	1,110
Mean Value	2,75	

Table 7 shows that the average value of the participation of action council members is 2.65, indicating a low political decision-making. This is an area that needs improvement to increase participation in the decision-making process. The total average value of 2.75, overall, indicates that the political capital within the cooperative has a low level. Descriptive analysis using SPSS shows that the mean value is higher than the standard deviation. If the standard deviation is smaller than the mean value, performance can be considered good. However, these findings suggest that there is room for improvement in participation and influence in political activities within the cooperative. It is important to note that political capital does not always have a positive impact, and cooperatives may face specific political challenges. Factors such as changes in government, unsupportive policies, or political conflicts can negatively affect cooperatives. Therefore, building strong relationships with political entities and ensuring the sustainability of political support is crucial in optimizing the role of political capital in the cooperative context. In contrast to the study by Suarez et al. (2022), which stated that political capital has a significant impact on the well-being of coffee-farming families in South Colombia, where variables such as coffee identification cards and participation in community activities enhance the well-being of coffee-farming families. This political capital variable contributes positively to social capital and synergistically contributes to the well-being of coffee-farming families, while natural and physical capital has a lower impact. The development of political capital, especially through economic organizations such as farmer cooperatives, is considered to support the livelihoods of coffee-farming families and help them lift themselves out of poverty.

Livelihood assets owned by cooperatives vary. From the research results on respondents in North Maluku Province, relationships and connections between human capital, natural capital, financial capital, social capital, and physical capital, entrepreneurship capital, and political capital have been formed, as depicted in the livelihood asset pentagon. The diagram of the pentagon and the connecting lines with the center point in the middle of the pentagon's field illustrate the level of community access to the livelihood assets owned (DFID, 2001). The results of the descriptive analysis of livelihood asset variables are presented in the following table:

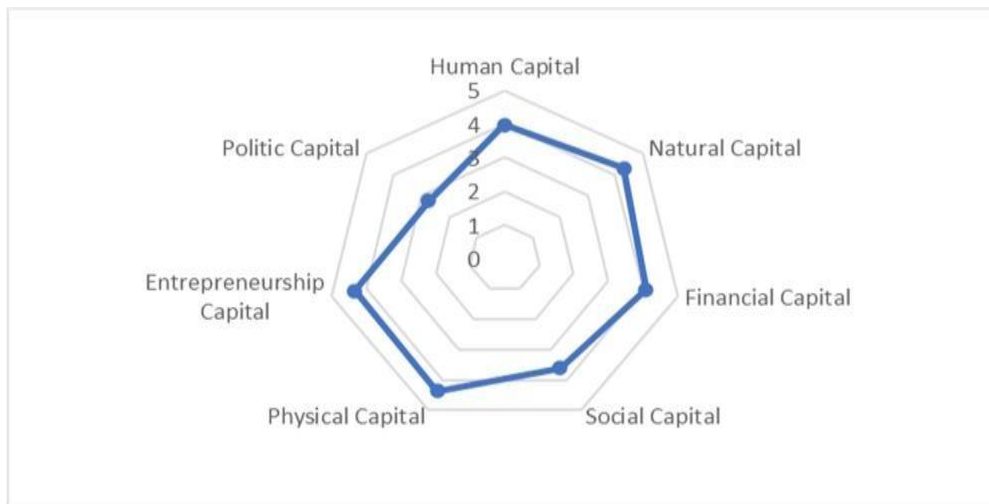


Figure 3. Pentagon research assets

Figure 3 illustrates the assessment diagram of Livelihood Assets of the Coconut Processed Products Cooperative. It can be seen that the connecting lines of each asset have not formed a symmetric hexagon, indicating that the livelihood assets owned by the Coconut Processed Products Cooperative are not balanced; some asset values are higher than others. To achieve sustainability, the values of the Livelihood Assets should be high and balanced among the various assets.

Table 8. Tabulation of Livelihood Assets Calculation Results

Assets	Average
Human Capital	3,96
Natural Capital	4,31
Financial Capital	4,10
Social Capital	3,60
Physical Capital	4,37
Entrepreneurship Capital	4,34
Politic Capital	2,75

In general, the value of livelihood assets in the Coconut Processed Products Cooperative is considered high. This indicates that assets such as human capital, natural capital, financial capital, social capital, physical capital, and Entrepreneurship Capital owned by the cooperative are assessed positively and support the sustainability of the business. However, political capital still has a low value, indicating a low level of involvement in political activities. This asset remains vulnerable

to political environmental changes, such as changes in government policies.

In the pentagon model, the livelihood assets of the Coconut Processed Products Cooperative show that political capital has the lowest value with a total average score of 2.75. This reflects a low level of political support from relevant parties, possibly due to the lack of member participation in political decisions. On the other hand, physical capital has the highest value with a total average score of 4.34. The high value of physical capital indicates that the cooperative has access to or ownership of essential production and distribution tools, transportation facilities, market availability, and good road access.

### **3. Livelihood Strategies for the Coconut Processed Products Cooperativel Capital**

Aspect is also crucial in sustainable strategies. The cooperative can develop inclusive financial models, such as managing expenditures and maximizing income. (4) Social Capital is also an important part of this strategy. The cooperative can build strong networks with stakeholders, including the government, research institutions, and the local community. This collaboration can facilitate the exchange of knowledge, resources, and market opportunities. Additionally, the cooperative can promote social values and environmental responsibility in its operations, creating a positive reputation that supports long-term sustainability. (5) Regarding Physical Capital, investing in efficient and environmentally friendly production infrastructure is a strategic step. The cooperative can allocate capital to modernize coconut processing equipment, adopt more efficient technologies, and increase production capacity. (6) Entrepreneurship Capital, the cooperative can facilitate its members' access to financial resources and training. This may include providing business capital, guidance in business planning, and support for product innovation efforts. (7) Political Capital, the cooperative needs to actively engage with the government and relevant stakeholders to ensure policies that support the development of the coconut processed products industry.

## **CONCLUSION**

Cooperatives demonstrate significant strength in physical, financial, and entrepreneurial capital, reflecting the availability of resources and capabilities needed to support operations and growth. Natural capital receives a high average value, indicating a strong awareness of environmental sustainability and the adoption of environmentally friendly production practices. Meanwhile, human capital also receives a favorable assessment, suggesting that the cooperative may have a well-trained and high-quality team.

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## **REFERENCES**

- Abriand, Erick, Muhammad Ferdryansyah, and Gigin G. Kamil Basar. 2017. "Efektivitas Program Pemulihan Mata Pencaharian (Pap) Di Desa Batusari Kecamatan Dawuan

- Kabupaten Subang 2017.” *Prosiding Penelitian dan Pengabdian kepada Masyarakat* 4(2). Alouw, J. C., and S. Wulandari. 2020. “Present Status and Outlook of Coconut Development in Indonesia.” *IOP Conference Series: Earth and Environmental Science* 418(1).
- Audretsch, David B, Werner Bönte, and Max Keilbach. 2008. “Entrepreneurship Capital and Its Impact on Knowledge Diffusion and Economic Performance.” 23: 687–98.
- Dang, Xiaohu et al. 2020. “Do Environmental Conservation Programs Contribute to Sustainable Livelihoods? Evidence from China’s Grain-for-Green Program in Northern Shaanxi Province.” *Science of the Total Environment* 719. *ok of Qualitative Research*.
- Erenstein, Olaf, Jon Hellin, and Parvesh Chandna. 2010. “Poverty Mapping Based on Livelihood Assets: A Meso-Level Application in the Indo-Gangetic Plains, India.” *Applied Geography* 30(1).
- Fang, Yi Ping, Jie Fan, Mao Ying Shen, and Meng Qiang Song. 2014. “Sensitivity of Livelihood Strategy to Livelihood Capital in Mountain Areas: Empirical Analysis Based on Different Settlements in the Upper Reaches of the Minjiang River, China.” *Ecological Indicators* 38.
- Guo, Shili, Shaoquan Liu, Li Peng, and Haiming Wang. 2014. “The Impact of Severe Natural Disasters on the Livelihoods of Farmers in Mountainous Areas: A Case Study of Qingping Township, Mianzhu City.” *Natural Hazards* 73(3).
- Hamka, Hamka. 2012. “Analisis Faktor Produksi Tanaman Kelapa (Cocos Nucifera) Terhadap Pendapatan Petani.” *Agrikan: Jurnal Agribisnis Perikanan* 5(1): 49.
- Johnson, Susan. 2009. “Seminar Report: Sustainable Livelihoods and Pro-Poor Market Development.” In *Enterprise Development and Microfinance*.
- Kementerian Koperasi Dan Usaha Kecil Dan Menengah Republik Indonesia, (2010) *Jenis Koperasi Deputi Bidang Pengembangan Sumber Daya Manusia Kementerian Koperasi Dan Usaha Kecil Dan Menengah Republik Indonesia*.
- LIU, Ming yue, Xiao long Feng, San gui Wang, and Yu Zhong. 2021. “Does Poverty-Alleviation-Based Industry Development Improve Farmers’ Livelihood Capital?” *Journal of Integrative Agriculture* 20(4).
- Pandey, Rajiv et al. 2017. “Sustainable Livelihood Framework-Based Indicators for Assessing Climate Change Vulnerability and Adaptation for Himalayan Communities.” *Ecological Indicators* 79.
- ———. 2018. “Climate Change Vulnerability in Urban Slum Communities: Investigating Household Adaptation and Decision-Making Capacity in the Indian Himalaya.” *Ecological Indicators* 90.
- Perz, Stephen G. et al. 2015. “Trans-Boundary Infrastructure and Changes in Rural Livelihood Diversity in the Southwestern Amazon: Resilience and Inequality.” *Sustainability (Switzerland)* 7(9).
- Schaltegger, Stefan, and Marcus Wagner. 2011. “Sustainable Entrepreneurship and Sustainability Innovation: Categories and Interactions.” 237(July 2010): 222–37.

- Scoones, Ian. 1998. *Sustainable Rural Livelihoods: A Framework for Analysis*. <https://www.researchgate.net/publication/251873585>.
- ———. 2001. *Dynamics and Diversity: Soil Fertility and Farming Livelihoods in Africa: Case Studies from Ethiopia, Mali, and Zimbabwe*. <https://www.researchgate.net/publication/259999094>.
- Sugiyono. 2019. “Sugiyono (2019.” *JKPD (Jurnal Kajian Pendidikan Dasar)* 6(1).